

-continued

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What is claimed is:

1. A method for dechlorinating a mixture of chlorinated ethanes and chlorinated ethenes, comprising:
  - contacting a mixture of chlorinated ethanes and chlorinated ethenes with a microbial composition comprising an isolated bioremediative consortium comprising strains of microorganism comprising *Clostridium*, *Acetobacter*, *Dehalobacter*, *Bacteroides*, and *Proteobacteria*; and
  - concurrently anaerobically dechlorinating the mixture of chlorinated ethanes and chlorinated ethenes.
2. A method for dechlorinating a mixture of chlorinated ethanes and chlorinated ethenes, comprising:
  - contacting a mixture of chlorinated ethanes and chlorinated ethenes with a microbial composition comprising an isolated bioremediative consortium comprising strains of microorganism comprising *Clostridium*, *Acetobacter*, *Dehalobacter*, *Bacteroides*, *Proteobacteria*, and *Methanomicrobia*; and
  - concurrently anaerobically dechlorinating the mixture of chlorinated ethanes and chlorinated ethenes.

3. A method according to claim 1, wherein the chlorinated ethanes comprise at least one of 1,1,2,2-tetrachloroethane; 1,1,2-trichloroethane; 1,2-dichloroethane, or chloroethane.
4. A method according to claim 1, wherein the chlorinated ethenes comprise at least one of cis 1,2-dichloroethene; trans 1,2-dichloroethene; vinyl chloride; or tetrachloroethene.
5. A method according to claim 1, wherein the mixture further comprises chlorinated methane.
6. A method according to claim 5, wherein the chlorinated methane comprises carbon tetrachloride or chloroform.
7. A method according to claim 1, wherein the microbial composition further comprises *Dehalococcoides* and at least one of *Methanosarcina* or *Methanosaeta*.
8. A method according to claim 1, wherein the microbial composition comprises strains of microorganism comprising *Clostridiales*, *Cytophaga-flavobacterium-bacterioides*, *Proteobacteria*, and *Methanomicrobia*.
9. A method according to claim 1, wherein the chlorinated ethane comprises 1,1,2,2-tetrachloroethane and said anaerobically dechlorinating occurs in the presence of tetrachloroethene.

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